A Prairie Calling

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FRIENDS OF NACHUSA GRASSLANDS

© "Up close with a damselfly" by Yogendra Joshi, Flickr, CC by 2.0, https://bit.ly/2XgYGfO

Nachusa's Charismatic Dragonflies and Damselflies

The wetlands you see at Nachusa Grasslands are full of waterfowl, frogs, and fish. Yet one of their most fascinating occupants is invisible to the eye unless you look beneath the surface. Dragonflies and damselflies—both part of the order Odonata—spend most of their lives in these ponds and streams as nymphs. When the weather warms and days lengthen each spring, dragonfly and damselfly nymphs of many species emerge and complete their last stage of incomplete metamorphosis. They clamber onto foliage, then exchange the life of the water for the life of the air. This process continues throughout the summer, until the last cold days see some species migrate, or their brief lives come to an end. These ancient rituals of emergence, mating, ovipositing—and for some species, migration—are a certainty we can count on each year.

At Nachusa, eight monitors walk prescribed routes, tabulating species and their numbers at least six times from April to the end of October. The data are used in understanding the changes and health of Nachusa's waterways and how management decisions may affect these charismatic insects. We also report our findings to the Peggy Notebaert Museum in Chicago, which compiles data from other monitors across the state. Since Nachusa began monitoring odonates in 2013, we've seen more than two dozen different dragonfly species and almost the same number of damselfly species. □

In Search of the Hine's Emerald

Last season at Nachusa, we began looking for the federally endangered Hine's emerald dragonfly (*Somatochlora hineana*), which has recently been sighted in neighboring counties. With help from DuPage County ecologist Andrés Ortega we've discovered likely habitat for this elusive Ode. Our geology, with its underlay of St. Peter sandstone, and our specific fen habitats, pocked with fresh water springs, are conducive to this species. Another requirement is the presence of

Devil crayfish © Cindy Crosby

the devil crayfish (*Cambarus diogenes*), whose burrows host the Hine's emerald dragonfly nymphs as a sheltering spot—something unique in the Odonate world. The nymph

(continued on the back)

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Swamp darner dragonfly © Joyce Gibbons

stage for this species may last for up to four years. In 2019, Nachusa's Ecosystem Restoration Scientist Dr. Elizabeth Bach and I joined Ortega, along with other staff and monitors, to explore Nachusa's crayfish burrows—literally sticking our arms deep into the holes and pulling out the crayfish—to identify, for the first time, their occupants. Success! Ortega confirmed we have the correct crayfish (and we added another new species to the Nachusa Grasslands species list).

Will we find the Hine's emerald dragonfly? Perhaps by the time you read this, we will have. What other species are out there? We've likely only scratched the surface. Meanwhile, there is the thrill of the chase! This is one of the many reasons we continue to monitor dragonflies at Nachusa Grasslands.

Dragonflies on the Move

Birds migrate. Monarch butterflies migrate. Did you know some species of dragonflies in Illinois migrate as well?

At Nachusa Grasslands, we monitor the migration of dragonflies each season. Toward the end of August into September, you'll see hundreds of common green darners (*Anax junius*) and black saddlebags (*Tramea lacerata*) massing along Stone Barn Road and in other areas at Nachusa, preparing to head south. You might also see the wandering glider (*Pantala flavescens*), spot-winged glider (*Pantala hymenaea*), or variegated meadowhawk (*Sympetrum corruptum*) in lesser numbers. Other dragonfly species here may migrate as well, although its not believed that damselflies do. These dragonflies may fly as far as Texas or even Central America before their journey ends. Future generations of these dragonflies will then individually make their way north in the spring and appear at Nachusa Grasslands in March or April. Much of dragonfly migration is still a mystery to scientists. Our data helps contribute to the understanding of this seasonal phenomenon.

A dragonfly © Betty Higby

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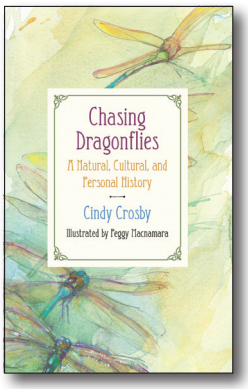

Cindy Crosby is the author of the forthcoming *Chasing Dragonflies: A Natural, Cultural, and Personal History* (Northwestern University Press, June 2020) and *The Tallgrass Prairie: An Introduction*, also with Northwestern University Press. She blogs about dragonflies and prairie at "Tuesdays in the Tallgrass" at Wordpress and coordinates the dragonfly monitoring program at Nachusa Grasslands.

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